BUSCA

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Motivation

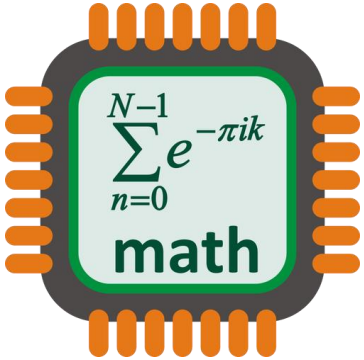
The CULC problem

- **Nice study spaces**
- **Huge building**
- **Always packed**

Objective

- Connect students with available study spaces in real time
- Cost-effective, non-invasive
- User friendly UI

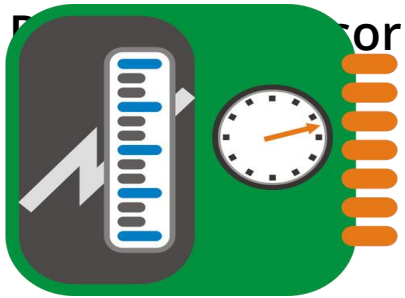
Background



Microcontroller Unit

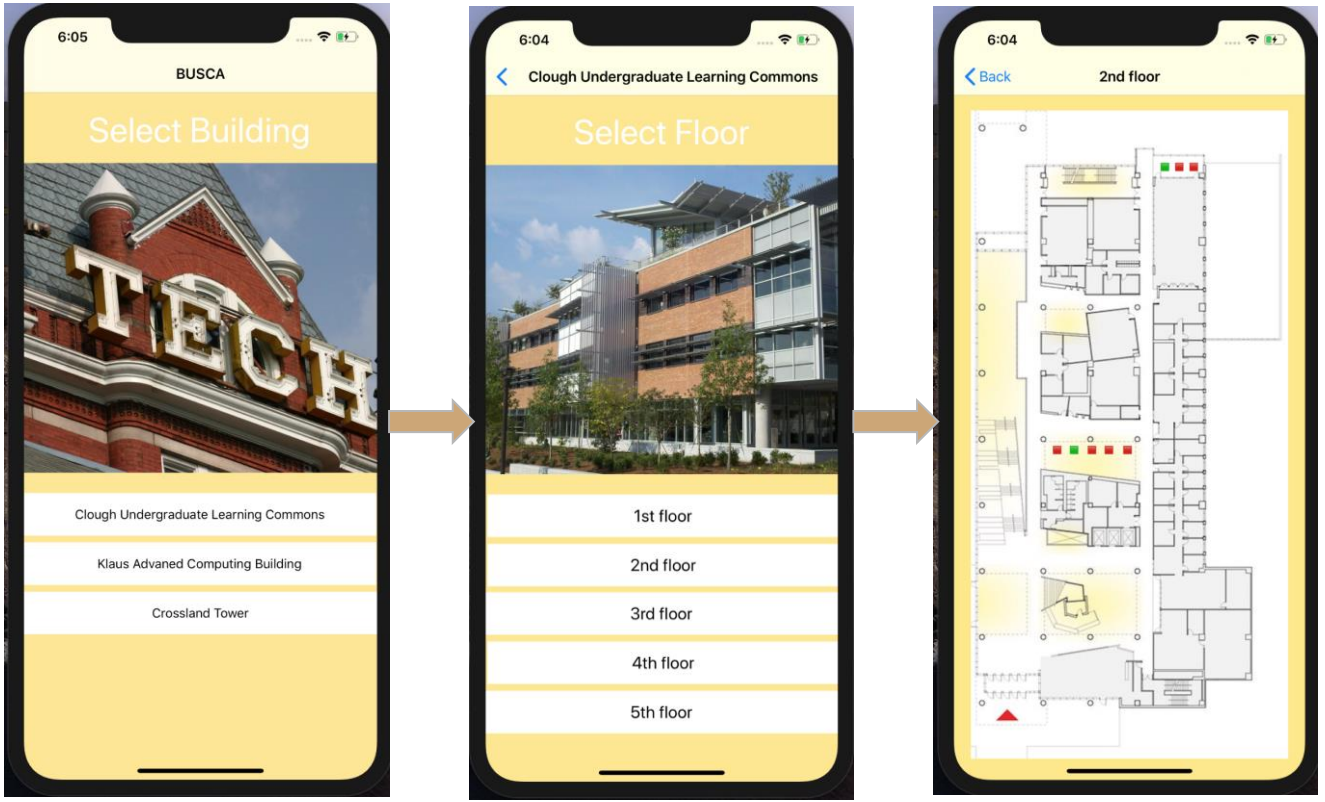
Cloud Server

Network

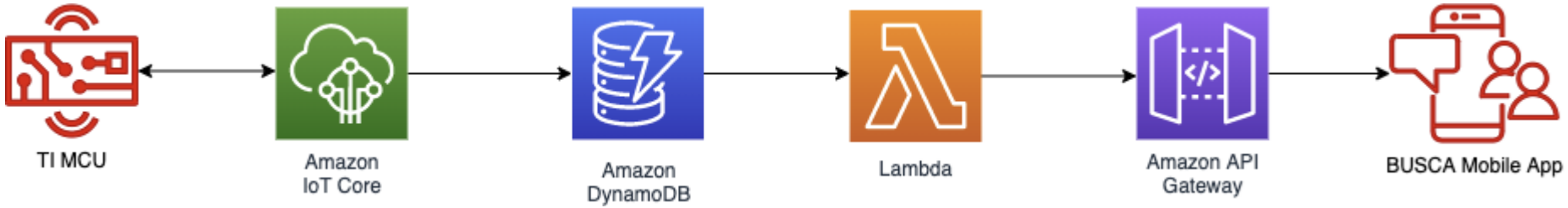


Mobile App-Current Status

- UI layout is done
- Currently able to successfully retrieve data from the AWS endpoint
- Working template class to handle displaying table availability for any floor



Network Architecture-Current Status



Device

End User

Hardware-Current Status

- Connected the device via Wi-Fi to AWS IoT
- Published dummy messages to AWS IoT
- Researched and found demo code for many features
  - Hibernation timer
  - Publishing to AWS IoT
  - I^2C Communication
- Sensors and mounting hardware has been delivered

Problems and Challenges

- MCU checked out from the senior design lab was broken
- Long order delivery time
- Bigger learning curve than expected for the app development
- Discovery that our sensors need to be mounted to a breakout board

Next Steps

- **Continue app development**
  - **Handle data retrieved from the server properly**
  - **Make UI flexible to work on any screen size**
- **Build enough sensor breakouts for development**
- **Format messages sent to AWS IoT to be parseable by Lambda**
- **Create more refined security policies for AWS IoT**